EE-101/1846

B. Tech (Semester-I) Examination–2018

Electrical Engineering

Time: Three Hours

Maximum Marks: **100**

Note: Attempt questions from all the sections.

Section-A

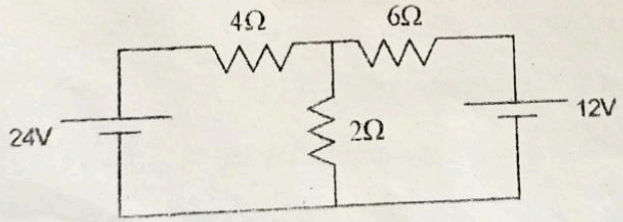
(Short Answer Type Questions)

Note: Attempt any ten questions. Each question carries 4 marks. (4x10=40)

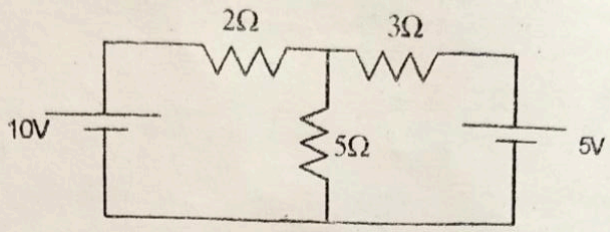
1. Explain active and passive element?

2. Explain the voltage division rule?

3. Determine the currents through various resistors of the circuit using mesh analysis.



4. State the Norton theorem.



5. Using superposition theorem find the current through resistance 5π .

6. Explain delta to star conversion?

7. What is reluctance and relative permeability?

8. Differentiate magnetic and electric circuit.

9. Explain B-H curve and saturation in brief.

10. Drive the R.M.S value of sinusoidal wave?

11. State active power and true power.

12. Find the Q- factor of resonant series circuit.

13. Drive the EME equation of transformer.

14 Drive the expression of maximum efficiency of transformer.

15. A six- pole lop wound D.C. generator has 720 conductors, a flux of 40m w6/ pole is driven at 400 r.p.m. find the generated E.M.T..

Section-B

(Long Answer Type Questions)

Note: Attempt any three questions. Each question carries 20 marks. **(20x3=60)**

1. (a) Explain the moving Iron Instrument.

(b) Explain the working of PMMC.

2. (a) Drive the equation of D.C. machine.

   (b) Drive Resonance in R-L-C Series circuit.

3. Explain the working. principle of synchronous motor

4. Explain the speed torque characteristic of synchronous motor. Explain the V- Curve.

5. (a) Drive the expression of maximum power transfer theorem.

   (b) Write down the merits and demerits of moving iron Instrument.

6. Explain the following-

   (i) Thevnin theorem

   (ii) Series R-L-C Circuit

   (iii) Eddy current Losses

   (iv) Series motor